



Food Surveys Research Group
Dietary Data Brief No. 43
May 2022

Saturated Fat and Food Intakes of Adults: What We Eat in America, NHANES 2017-2018

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Highlights

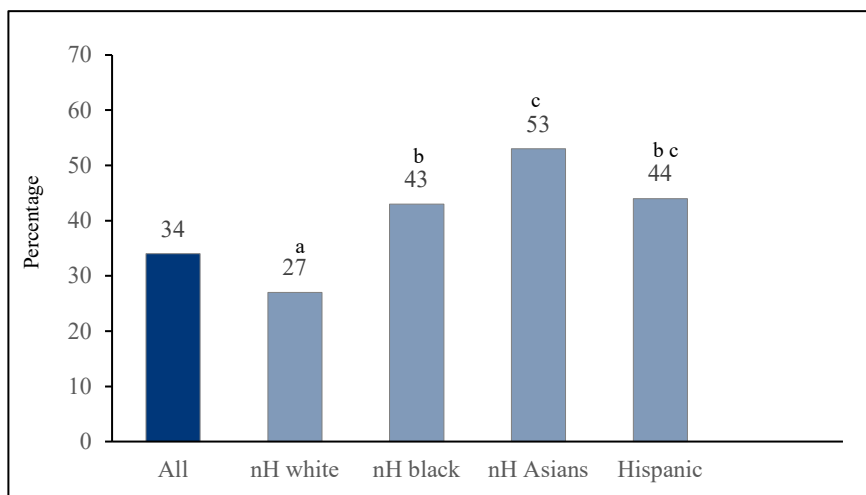
- One-third of adults, 20+years, met the dietary guidelines recommendation for saturated fat by consuming <10 percent of daily calories from saturated fat.
- Adults who met the recommendation had 7.4 % and the adults who did not meet had 13.9 % of daily calories from saturated fat.
- On average, those who met the recommendation consumed 236 kcal less, daily.
- Adults who met the recommendation consumed more whole/intact fruit and 100% fruit juice.
- Adults who did not meet the recommendation consumed more fluid milk, cheese, meat, cured meat, and eggs. These foods can be appreciable sources of saturated fat.

The Dietary Guidelines for Americans 2020-2025 (DGA) recommend that individuals limit their saturated fat intake to less than 10 percent of daily calories [1]. This study compares macronutrients and food pattern food groups intakes of adults, ages 20 years and over, who meet the DGA saturated fat recommendation with that of adults who do not meet the recommendation, using What We Eat in America, NHANES 2017-2018 dietary data (N=4742) [2]. A p-value < 0.01 was considered significantly different for mean comparisons.

What percentage of adults met the saturated fat recommendation?

Overall, one-third (34%) of adults 20 years and over, met the DGA saturated fat recommendation. However, comparison among race/ethnicity showed only about one-fourth of non-Hispanic white met the recommendation, as shown in figure 1.

Figure 1. Estimated percentages of adults with less than 10 percent of daily calories from saturated fat by race/ethnicity, WWEIA, NHANES 2017-2018



nH= non-Hispanic

Percentages with the same superscripts are not significantly different from each other at p < 0.01.

DATA SOURCE: WWEIA, NHANES 2017-2018, day 1, adults 20+ years.



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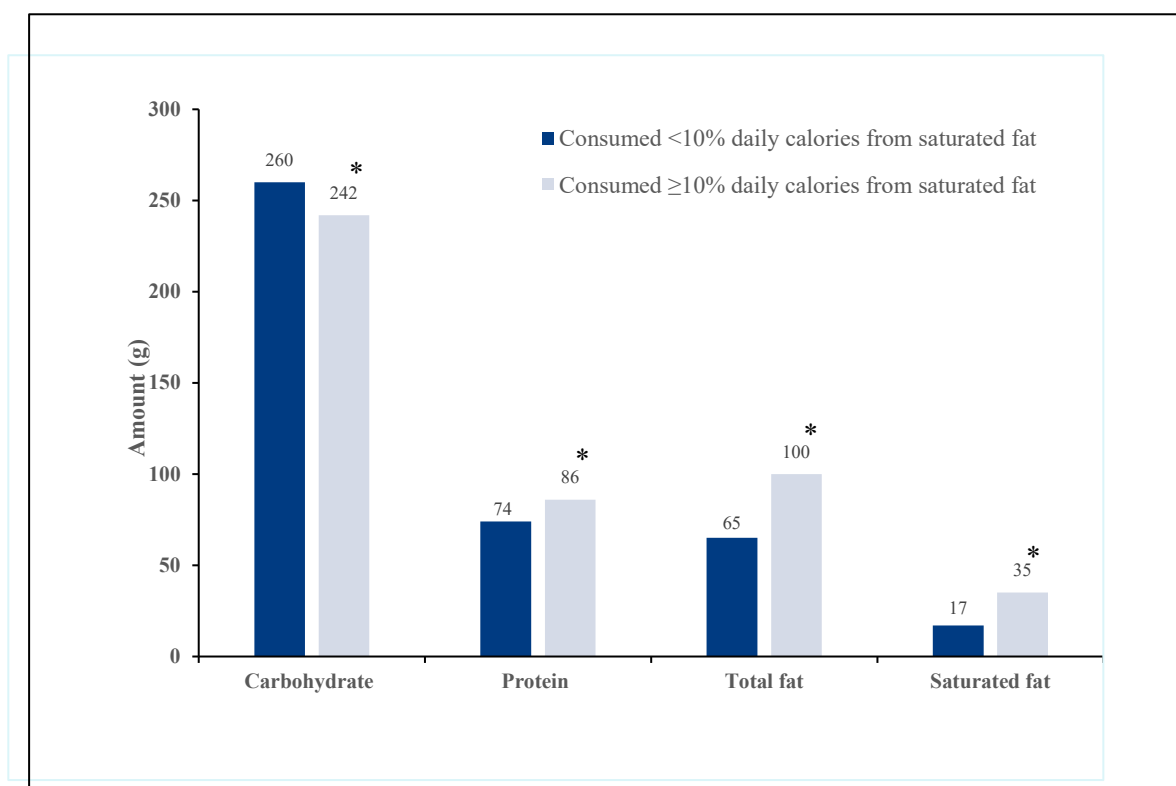
www.ars.usda.gov/nea/bhnrc/fsrg

How did the macronutrient intakes compare between the two groups?

The estimated mean energy intake of adults who met the saturated fat recommendation was 1,998 kcal and that of the adults who did not meet the recommendation was 2,234 kcal. The difference of 236 kcal was significant at p-value <0.01. Adults who met the saturated fat recommendation, compared with those who did not, consumed a lower percentage of daily calories from saturated fat (7.4% versus 13.9%).

Figure 2 contains the estimated mean intakes of macronutrients. Adults who met the saturated fat recommendation, compared with those who did not, consumed significantly more carbohydrate (18g), and significantly less protein, total fat, and saturated fat (12g, 35g, and 18g, respectively.).

Figure 2. Estimated mean intakes of macronutrients by adults 20+ years, WWEIA, NHANES 2017-2018



Values rounded to integers.

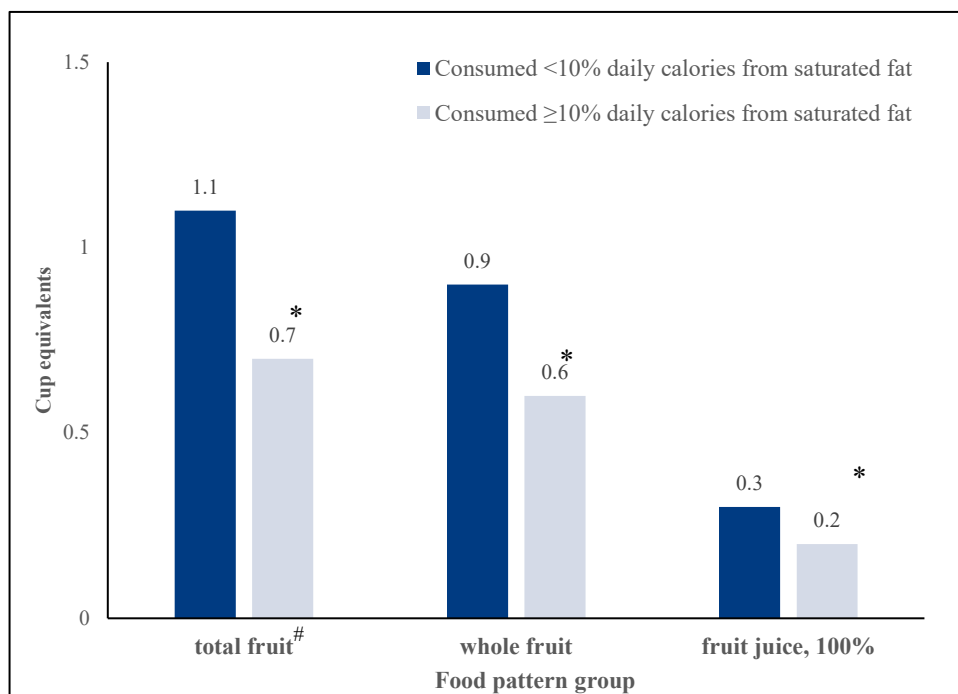
* Respective means are significantly different from each other at p-value <0.01.

DATA SOURCE:WWEIA,NHANES 2017-2018, day 1, adults 20+ years.

How did the fruit, vegetable, and grain intakes compare between the two groups?

Figure 3 includes the estimated mean intakes. The total fruit, whole/intact fruit, and 100% fruit juice intakes of adults who met the saturated fat recommendation were significantly higher than that of adults who did not meet the saturated fat recommendation.

Figure 3. Estimated mean intake of fruit by adults, WWEIA, NHANES 2017-2018



Values rounded to first decimal

* Respective means are significantly different from each other at p-value <0.01.

Total fruit is composed of whole/intact fruit and 100% fruit juice consumed separately or from multi-ingredient foods and beverages. (See Reference 3 for details.)

DATA SOURCE: Food Patterns Equivalents data and WWEIA, NHANES 2017-2018, day 1, adults 20+ years.

Vegetable intake

The adults who met the saturated fat recommendation had 1.5 cup equivalents (eq.) of total vegetables and adults who did not meet had 1.6 cup eq. of total vegetables. These estimated means were not significantly different.

Grain intake

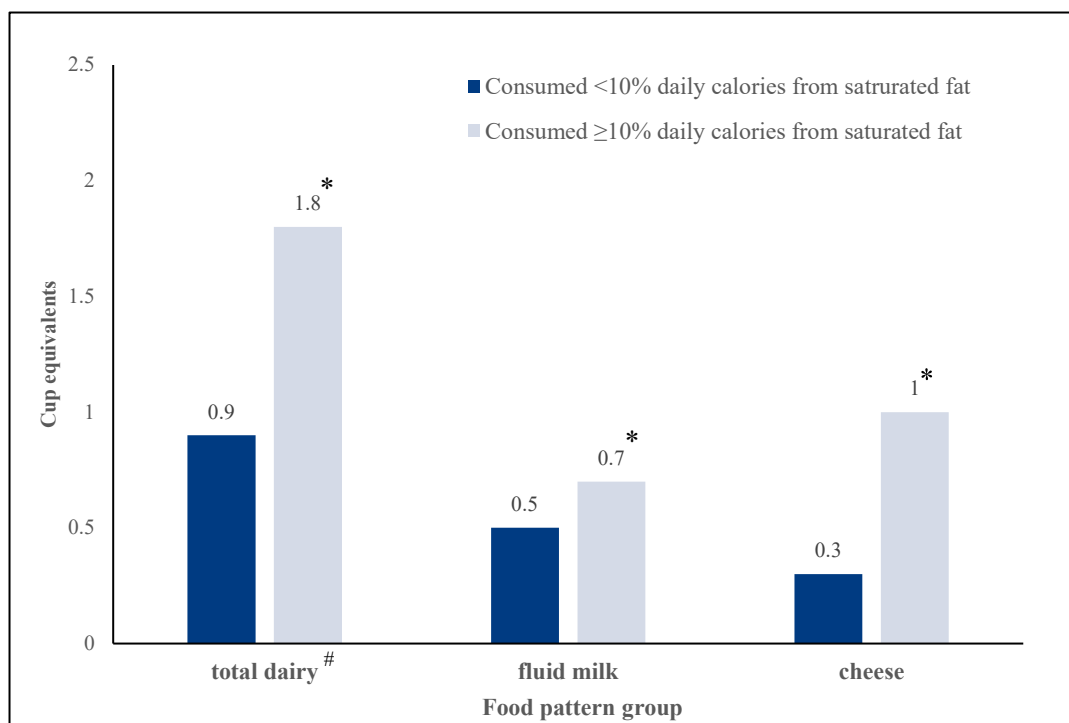
No differences were noted in the estimated mean intakes of whole grains and refined grains between the two groups.. The adults who met the recommendations consumed 0.9 ounce (oz.) eq. whole grains and 5.5 oz. eq. refined grains, and adults who did not meet the recommendation consumed 0.8 and 5.9 oz. eq., respectively.

How did the dairy intakes compare between the two groups?

The adults who met the saturated fat recommendation consumed significantly lower amounts of fluid milk and cheese as shown in figure 4.

Dairy foods, especially cheeses, though nutritious, can be sources of significant amount of saturated fat.

Figure 4. Estimated mean intakes of dairy by adults, WWEIA, NHANES 2017-2018



Values rounded to first decimal

* Respective means are significantly different from each other at p-value <0.01.

Total dairy is composed of fluid milk, cheese, and yogurt (not shown). Each of the food groups includes that consumed alone and consumed from multi-ingredient foods (See Reference 3 for details.)

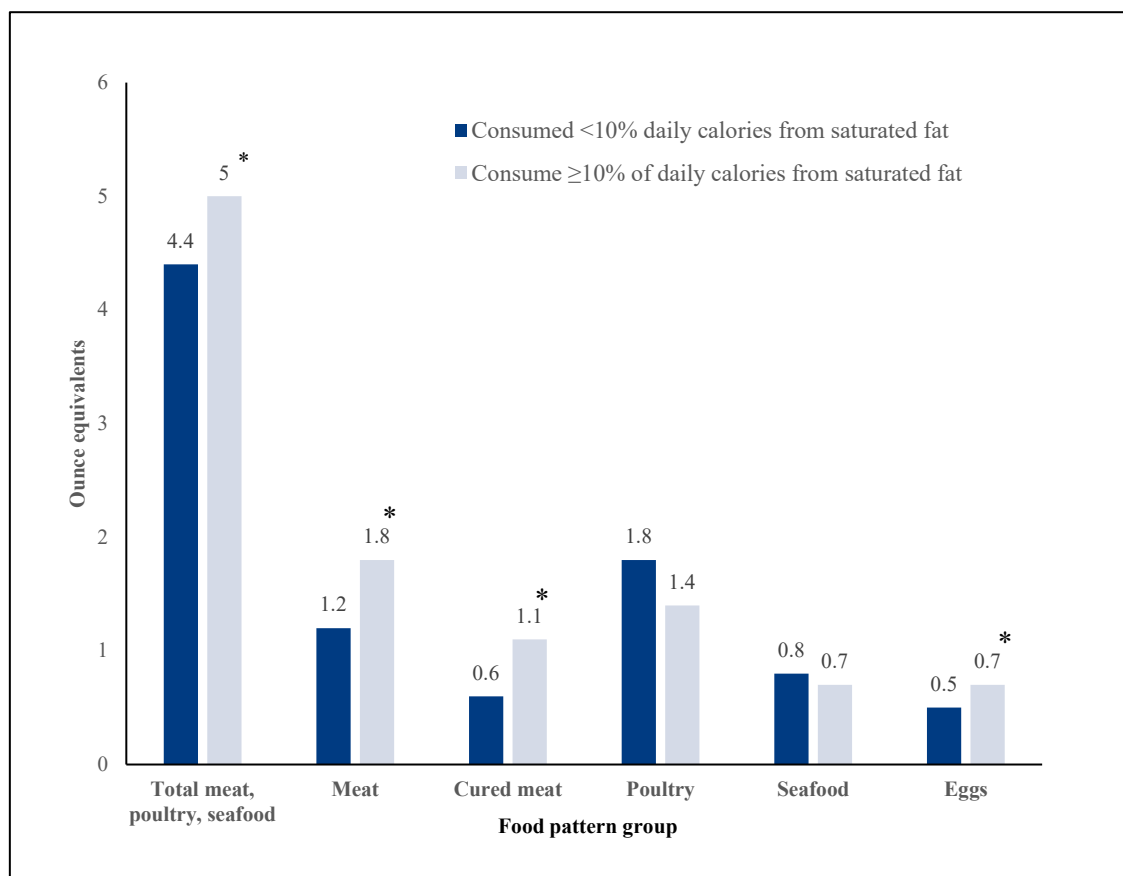
Food Patterns Equivalents data and WWEIA, NHANES 2017-2018, day 1, adults 20+ years.

DATA SOURCE: WWEIA, NHANES 2017-2018, day 1, adults 20+ years.

How did the animal protein food intakes compare between the two groups?

Figure 5 shows the estimated mean intakes of protein foods of animal origin. The total meat, poultry, and seafood group is composed of meat, organ meat, cured meat, poultry, and seafood. There were no differences between the two groups of adults in their estimated mean intakes of poultry and seafood. However, the adults who did not meet the saturated fat recommendation consumed significantly more meat and cured meat. Hence, they had higher intakes of total meat, poultry, and seafood. They also consumed more eggs. Certain types of meat and egg yolks can be appreciable sources of saturated fat.

Figure 5. Estimated mean intakes[#] of meat, poultry, seafood, and eggs by adults, WWEIA, NHANES 2017-2018



[#] Each of the food groups includes that consumed alone and consumed from multi-ingredient foods (See Reference 3 for details.)

Values rounded to first decimal

*Respective means are significantly different from each other at p-value <0.01.

Food Patterns Equivalents data and WWEIA, NHANES 2017-2018, day 1, adults 20+ years.

DATA SOURCE: WWEIA, NHANES 2017-2018, day 1, adults 20+ years.

What are the implications of the study?

The food choices of the two groups of adults differed. The adults who met the DGA saturated fat recommendation chose more of foods such as fruit and fruit juice that do not contain saturated fat. They ate less of foods such as meat, cured meat, fluid milk, and cheeses that can be appreciable sources of saturated fat.

Dairy foods and animal proteins are nutritious foods. Choosing lean meat and low fat or nonfat dairy foods is a way to consume nutritious foods from the meat and dairy group, without adversely impacting saturated fat intake.

Definitions Used in the Food Patterns Equivalents Database 2017-2018

USDA food patterns include the five food groups- vegetables, fruit, grains, dairy, and protein foods; and other components such as oils, solid fats, added sugars, and alcoholic drinks. Reference No. 3 includes definitions, foods assigned to the food pattern groups, and the computation of cup and ounce equivalents.

Data source

(1) What We Eat in America, NHANES 2017-2018, day 1 dietary data were used to estimate Food Patterns equivalents intakes. Study sample included 4742 adults, ages 20 years and over, with complete and reliable intake records the surveys. Sample weights were applied in the analyses to produce nationally representative estimates.

(2) Food Patterns Equivalent dietary intakes computed using the Food Patterns Equivalents Database 2017-2018 [2].

References

1. U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2020-2025. 9th Edition. December 2020. Available at: [Home | Dietary Guidelines for Americans](#). Accessed date May 24, 2022.
2. U.S. Department of Agriculture, Agricultural Research Service, Beltsville Human Nutrition Research Center, Food Surveys Research Group, Beltsville, Maryland, Food Patterns Equivalents Databases and Datasets 2017-2018. Available at: [FPED databases : USDA ARS](#). Accessed date May 24, 2022.
3. Bowman SA, Clemens JC, Friday JE, and Moshfegh AJ. 2020. Food Patterns Equivalents Database 2017-2018: Methodology and User Guide [Online]. Food Surveys Research Group, Beltsville Human Nutrition Research Center, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, Maryland. October 2020. Available at: [Food Patterns Equivalents Database 2017-2018 Methodology and User Guide \(usda.gov\)](#). Accessed date May24, 2022.

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Suggested citation

Bowman SA and Clemens JC. Saturated fat and food intakes of adults: What We Eat in America, NHANES 2017-2018. Dietary Data Brief No. 43. May 2022.

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